

# What would your weight be?

Gravity is a universal, natural force that attracts objects to each other. Gravity is the pull toward the center of an object such as a planet or a moon. When you weigh yourself, you are measuring the amount of gravitational attraction exerted on you by Earth. The Moon has a weaker gravitational attraction than Earth. In fact, the Moon's gravity is only  $1/6$  of Earth's gravity. So, you would weigh less on the Moon. How much would you weigh on the Moon and on the other planets?

The person's mass would remain the same throughout space. Mass is the amount of matter in an object. The effect of gravitational pull on that mass will change between the planets, but the mass itself will remain the same.



## Procedure

1. Write your current weight (or an estimate) here:
2. To determine your "New Planetary Weight" you would multiply your current weight with the "Gravitational Factor." Follow the example and fill in the blanks in the "New Planetary Weight" Chart.

*Example :*

*Mars*                      *100 lb*            *x*                      *0.38*                      *38 lbs*

Celestial Body	Your current Weight		Gravitation Factor Relative to Earth	New Planetary Weight
Sun		X	27.90	
Mercury		X	0.38	
Venus		X	0.91	
Earth		X	1.00	
Moon		X	0.17	
Mars		X	0.38	
Jupiter		X	2.40	
Saturn		X	0.92	
Uranus		X	0.90	
Neptune		X	1.12	

*Gravitation Factor provided by NASA.*

